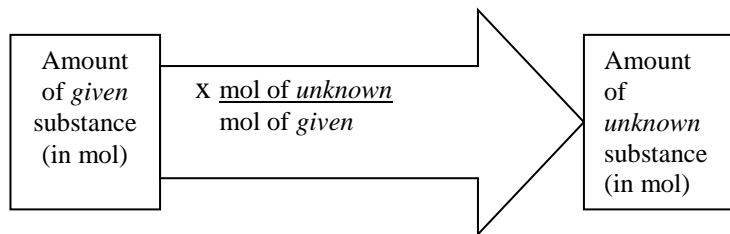


Stoichiometry – process relating quantities of reactants and products in a chemical reaction to one another.

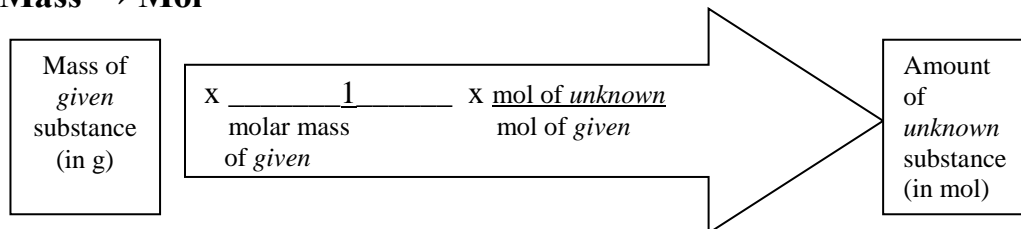
- **Must** have a **balanced** chemical equation.

Mol → Mol



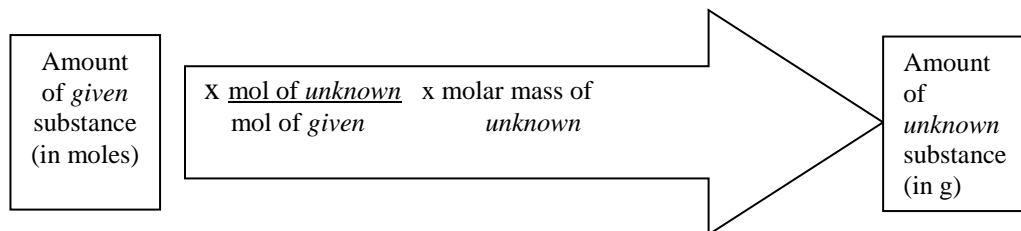
1. Check that equation is balanced
2. Label *given*
3. Label *unknown*
4. Plug in info
5. Check significant digits
6. Label your answer (in mol)

Mass → Mol

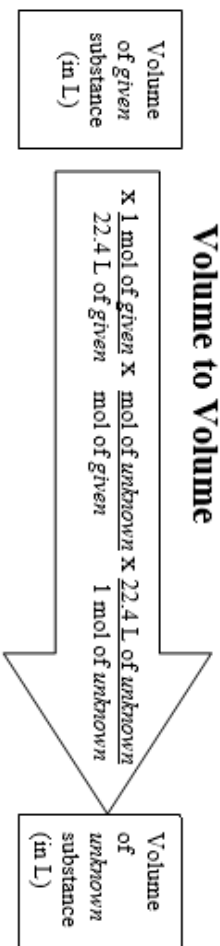


1. Check that equation is balanced.
2. Label *given*
3. Calculate molar mass of *given*
4. Label *unknown*
5. Plug in info
6. Check significant digits
7. Label answer (in mol)

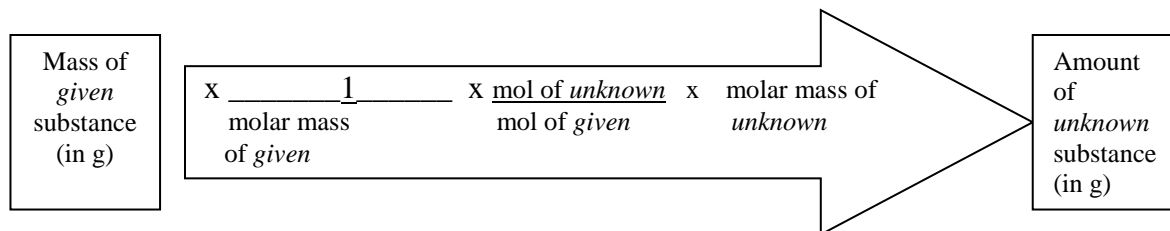
Mol → Mass



1. Check that equation is balanced
2. Label *given*
3. Label *unknown*
4. Calculate molar mass of *unknown*
5. Plug in info
6. Check significant digits
7. Label answer (in grams)

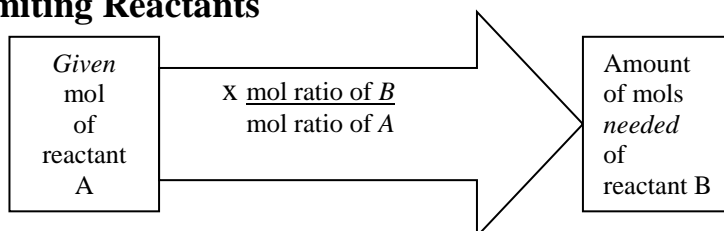


Mass → Mass



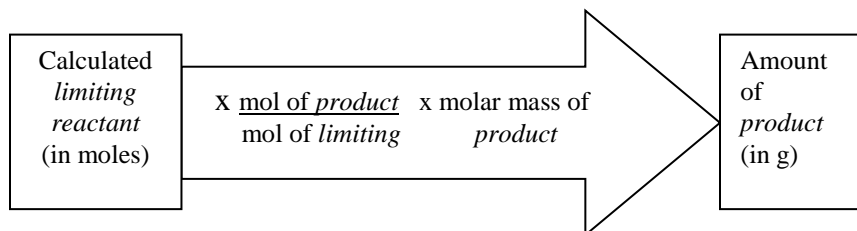
1. Check that equation is balanced
2. Label *given*
3. Calculate molar mass of *given*
4. Label *unknown*
5. Calculate molar mass of *unknown*
6. Plug in info
7. Check significant digits
8. Label answer

Limiting Reactants



1. Check the equation is balanced
2. Label reactants (1st one = A, 2nd one = B)
3. Convert to moles (if needed).
 - a. To go from grams to moles:
 $(\text{given}) \text{ grams} \cdot \frac{\text{mol}}{\star \text{ grams}}$ (\star = entire molar mass from Periodic Table)
4. Use the formula above to calculate how many moles of “B” are needed
5. Compare mol *needed* of B to *given* mol of B
 - a. If needed > given, then B is the limiting reactant.
 - b. If given > needed, then A is the limiting reactant.
6. State your result

Using Limiting Reactant to Find Quantity of a Product



1. Use the amount of limiting reactant in moles as the starting point
2. Use the mol ratio from the balanced chemical equation
3. Find the molar mass of the desired product
4. Plug information in
5. Check significant digits, label answer in grams